

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

AMENDMENTS

IN THE CLAIMS

5 Claims 1-280. (canceled)

281. (currently amended) A method for fabricating a circuit component, comprising:
joining a preformed die and a preformed substrate;
after said joining said preformed die and said preformed substrate, depositing a
10 circuit layer over said preformed die and across an edge of said preformed die;
~~comprising a first portion over said preformed die and a second portion over said~~
~~preformed substrate but not over said preformed die;~~ and
depositing a gold bump over said circuit layer.

15 282. (previously presented) A method for fabricating a circuit component,
comprising:
joining a preformed die and a preformed substrate;
after said joining said preformed die and said preformed substrate, forming an
insulating layer comprising a first portion over said preformed die and a second portion
20 over said preformed substrate but not over said preformed die, wherein said insulating
layer comprises a porous structure; and
after said forming said insulating layer, separating said preformed substrate into
multiple portions.

25 283. (currently amended) A method for fabricating a circuit component, comprising:
joining a preformed die and a preformed substrate;
after said joining said preformed die and said preformed substrate, depositing a
circuit layer over said preformed die and across an edge of said preformed die;

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

~~comprising a first portion over said preformed die and a second portion over said preformed substrate but not over said preformed die, wherein said depositing said circuit layer comprises electroplating, and wherein said circuit layer comprises a part of a passive device; and~~

- 5 after said depositing said circuit layer, separating said preformed substrate into multiple portions.

284. (previously presented) A method for fabricating a circuit component, comprising:

- 10 joining a preformed die and a preformed substrate, wherein said preformed die has a top surface at a horizontal level;

after said joining said preformed die and said preformed substrate, depositing a waveguide over said horizontal level; and

- 15 after said depositing said waveguide, separating said preformed substrate into multiple portions.

285. (previously presented) A method for fabricating a circuit component, comprising:

- 20 joining a preformed die and a preformed substrate, wherein said preformed die has a top surface at a horizontal level;

after said joining said preformed die and said preformed substrate, depositing a micro electronic mechanical element over said horizontal level; and

- 25 after said depositing said micro electronic mechanical element, separating said preformed substrate into multiple portions.

286. (previously presented) A method for fabricating a circuit component, comprising:

joining a preformed die and a preformed substrate, wherein said preformed die has a

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

top surface at a horizontal level;

after said joining said preformed die and said preformed substrate, depositing a filter
over said horizontal level; and

after said depositing said filter, separating said preformed substrate into multiple
5 portions.

287. (previously presented) The method of Claim 281 further comprising forming a
polymer layer comprising a first portion over said preformed die and a second portion
over said preformed substrate but not over said preformed die, followed by said
10 depositing said circuit layer over said polymer layer.

288. (previously presented) The method of Claim 287, wherein said forming said
polymer layer comprises curing.

15 289. (previously presented) The method of Claim 287, wherein said forming said
polymer layer comprises grinding.

290. (previously presented) The method of Claim 287, wherein said forming said
polymer layer comprises etching.

20 291. (previously presented) The method of Claim 281 further comprising forming a
polymer layer over said circuit layer, followed by said depositing said gold bump.

292. (previously presented) The method of Claim 281, wherein said depositing said
25 circuit layer comprises electroplating.

293. (previously presented) The method of Claim 281, wherein said depositing said
circuit layer comprises electroless-plating.

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

294. (previously presented) The method of Claim 281, wherein said depositing said circuit layer comprises sputtering.

5 295. (currently amended) The method of Claim 281 further comprising forming a polymer layer over said preformed substrate and surrounding said preformed die, followed by said depositing said circuit layer over said preformed die and over said polymer layer. ~~having said first portion over said preformed die and said second portion over said polymer layer but not over said preformed die.~~

10

296. (previously presented) The method of Claim 295, wherein said forming said polymer layer comprises curing.

15 297. (previously presented) The method of Claim 295, wherein said forming said polymer layer comprises grinding.

298. (previously presented) The method of Claim 295, wherein said forming said polymer layer comprises etching.

20 299. (previously presented) The method of Claim 281, wherein said joining said preformed die and said preformed substrate comprises using a conductive paste.

300. (previously presented) The method of Claim 281, after said depositing said gold bump, further comprising separating said preformed substrate into multiple portions.

25

301. (previously presented) The method of Claim 282, after said forming said insulating layer, further comprising depositing a circuit layer over said insulating layer, followed by said separating said preformed substrate.

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

302. (previously presented) The method of Claim 301, wherein said depositing said circuit layer comprises electroplating.

5 303. (previously presented) The method of Claim 301, wherein said depositing said circuit layer comprises electroless-plating.

304. (previously presented) The method of Claim 301, wherein said depositing said circuit layer comprises sputtering.

10

305. (currently amended) The method of Claim 282, after said joining said preformed die and said preformed substrate, further comprising depositing a circuit layer over said preformed die and across an edge of said preformed die, having a first portion
over said preformed die and a second portion over said preformed substrate but not over
15 said preformed die, followed by said forming said insulating layer over said circuit layer.

306. (previously presented) The method of Claim 305, wherein said depositing said circuit layer comprises electroplating.

20 307. (previously presented) The method of Claim 305, wherein said depositing said circuit layer comprises electroless-plating.

308. (previously presented) The method of Claim 305, wherein said depositing said circuit layer comprises sputtering.

25

309. (currently amended) The method of Claim 282, after said joining said preformed die and said preformed substrate, further comprising forming a polymer layer over said preformed substrate and surrounding said preformed die, followed by said

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

forming said insulating layer comprising said ~~having a first portion over said preformed die and said a second portion over said polymer layer but not over said preformed die.~~

5 310. (previously presented) The method of Claim 309, wherein said forming said polymer layer comprises curing.

311. (previously presented) The method of Claim 309, wherein said forming said polymer layer comprises grinding.

10 312. (previously presented) The method of Claim 309, wherein said forming said polymer layer comprises etching.

313. (previously presented) The method of Claim 282, wherein said joining said preformed die and said preformed substrate comprises using a conductive paste.

15 314. (previously presented) The method of Claim 282, wherein said forming said insulating layer comprises curing.

20 315. (previously presented) The method of Claim 282, wherein said forming said insulating layer comprises grinding.

316. (previously presented) The method of Claim 282, wherein said forming said insulating layer comprises etching.

25 317. (currently amended) The method of Claim 282, after said forming said insulating layer, further comprising depositing a passive device over said insulating layer. ~~wherein said forming said insulating layer comprises etching.~~

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

318. (currently amended) The method of Claim 282, after said forming said insulating layer, further comprising depositing a solder bump over said insulating layer. —
~~preformed substrate but not over said preformed die, followed by said separating said preformed substrate.~~

5

319. (currently amended) The method of Claim 282, after said forming said insulating layer, further comprising depositing a gold bump over said insulating layer.
~~preformed substrate but not over said preformed die, followed by said separating said preformed substrate.~~

10

320. (previously presented) The method of Claim 283 further comprising forming a polymer layer comprising a first portion over said preformed die and a second portion over said preformed substrate but not over said preformed die, followed by said depositing said circuit layer over said polymer layer.

15

321. (previously presented) The method of Claim 320, wherein said forming said polymer layer comprises curing.

322. (previously presented) The method of Claim 320, wherein said forming said
20 polymer layer comprises grinding.

323. (previously presented) The method of Claim 320, wherein said forming said polymer layer comprises etching.

25 324. (previously presented) The method of Claim 283 further comprising forming a polymer layer over said circuit layer, followed by said separating said preformed substrate.

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

325. (currently amended) The method of Claim 283 further comprising forming a polymer layer over said preformed substrate and surrounding said preformed die, followed by said depositing said circuit layer over said preformed die and over said polymer layer. ~~having said first portion over said preformed die and said second portion over said polymer layer but not over said preformed die.~~

326. (previously presented) The method of Claim 325, wherein said forming said polymer layer comprises curing.

327. (previously presented) The method of Claim 325, wherein said forming said polymer layer comprises grinding.

328. (previously presented) The method of Claim 325, wherein said forming said polymer layer comprises etching.

329. (previously presented) The method of Claim 283, wherein said joining said preformed die and said preformed substrate comprises using a conductive paste.

330. (previously presented) The method of Claim 283, after said depositing said circuit layer, further comprising depositing a solder bump over said preformed substrate but not over said preformed die, followed by said separating said preformed substrate.

331. (previously presented) The method of Claim 283, after said depositing said circuit layer, further comprising depositing a gold bump over said preformed substrate but not over said preformed die, followed by said separating said preformed substrate.

332. (previously presented) The method of Claim 283, wherein said passive device comprises a resistor.

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

333. (previously presented) The method of Claim 283, wherein said passive device comprises a capacitor.

5 334. (previously presented) The method of Claim 283, wherein said passive device comprises an inductor.

335. (previously presented) The method of Claim 284 further comprising forming a polymer layer comprising a first portion over said preformed die and a second portion
10 over said preformed substrate but not over said preformed die, followed by said depositing said waveguide over said polymer layer.

336. (previously presented) The method of Claim 335, wherein said forming said polymer layer comprises curing.
15

337. (previously presented) The method of Claim 335, wherein said forming said polymer layer comprises grinding.

338. (previously presented) The method of Claim 335, wherein said forming said
20 polymer layer comprises etching.

339. (previously presented) The method of Claim 284 further comprising forming a polymer layer over said waveguide, followed by said separating said preformed substrate.

25 340. (currently amended) The method of Claim 284 further comprising forming a polymer layer over said preformed substrate and surrounding said preformed die, followed by said depositing said waveguide over said polymer layer ~~but not over said preformed die.~~

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

341. (previously presented) The method of Claim 340, wherein said forming said polymer layer comprises curing.

5 342. (previously presented) The method of Claim 340, wherein said forming said polymer layer comprises grinding.

343. (previously presented) The method of Claim 340, wherein said forming said polymer layer comprises etching.

10

344. (previously presented) The method of Claim 284, wherein said joining said preformed die and said preformed substrate comprises using a conductive paste.

15 345. (previously presented) The method of Claim 284, after said depositing said waveguide, further comprising depositing a solder bump over said preformed substrate but not over said preformed die, followed by said separating said preformed substrate.

20 346. (previously presented) The method of Claim 284, after said depositing said waveguide, further comprising depositing a gold bump over said preformed substrate but not over said preformed die, followed by said separating said preformed substrate.

25 347. (previously presented) The method of Claim 285 further comprising forming a polymer layer comprising a first portion over said preformed die and a second portion over said preformed substrate but not over said preformed die, followed by said depositing said micro electronic mechanical element over said polymer layer.

348. (previously presented) The method of Claim 347, wherein said forming said polymer layer comprises curing.

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

349. (previously presented) The method of Claim 347, wherein said forming said polymer layer comprises grinding.

5 350. (previously presented) The method of Claim 347, wherein said forming said polymer layer comprises etching.

351. (previously presented) The method of Claim 285 further comprising forming a polymer layer over said micro electronic mechanical element, followed by said separating
10 said preformed substrate.

352. (currently amended) The method of Claim 285 further comprising forming a polymer layer over said preformed substrate and surrounding said preformed die, followed by said depositing said micro electronic mechanical element over said polymer
15 layer but not over said preformed die.

353. (previously presented) The method of Claim 352, wherein said forming said polymer layer comprises curing.

20 354. (previously presented) The method of Claim 352, wherein said forming said polymer layer comprises grinding.

355. (previously presented) The method of Claim 352, wherein said forming said polymer layer comprises etching.
25

356. (previously presented) The method of Claim 285, wherein said joining said preformed die and said preformed substrate comprises using a conductive paste.

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

357. (previously presented) The method of Claim 285, after said depositing said micro electronic mechanical element, further comprising depositing a solder bump over said preformed substrate but not over said preformed die, followed by said separating said preformed substrate.

5

358. (previously presented) The method of Claim 285, after said depositing said micro electronic mechanical element, further comprising depositing a gold bump over said preformed substrate but not over said preformed die, followed by said separating said preformed substrate.

10

359. (previously presented) The method of Claim 286 further comprising forming a polymer layer comprising a first portion over said preformed die and a second portion over said preformed substrate but not over said preformed die, followed by said depositing said filter over said polymer layer.

15

360. (previously presented) The method of Claim 359, wherein said forming said polymer layer comprises curing.

361. (previously presented) The method of Claim 359, wherein said forming said polymer layer comprises grinding.

20

362. (previously presented) The method of Claim 359, wherein said forming said polymer layer comprises etching.

363. (previously presented) The method of Claim 286 further comprising forming a polymer layer over said filter, followed by said separating said preformed substrate.

25

Appl. No. 10/055,499
Amdt. dated March 22, 2007
Reply to Office action of February 23, 2007

364. (currently amended) The method of Claim 286 further comprising forming a polymer layer over said preformed substrate and surrounding said preformed die, followed by said depositing said filter over said polymer layer ~~but not over said preformed die.~~

5

365. (previously presented) The method of Claim 364, wherein said forming said polymer layer comprises curing.

366. (previously presented) The method of Claim 364, wherein said forming said polymer layer comprises grinding.

10

367. (previously presented) The method of Claim 364, wherein said forming said polymer layer comprises etching.

368. (previously presented) The method of Claim 286, wherein said joining said preformed die and said preformed substrate comprises using a conductive paste.

15

369. (previously presented) The method of Claim 286, after said depositing said filter, further comprising depositing a solder bump over said preformed substrate but not over said preformed die, followed by said separating said preformed substrate.

20

370. (previously presented) The method of Claim 286, after said depositing said filter, further comprising depositing a gold bump over said preformed substrate but not over said preformed die, followed by said separating said preformed substrate.

25